



SREP Nicaragua – Investment Plan

SREP Sub-Committee Meeting
Preston Auditorium, World Bank Headquarters
Washington D.C, USA
May 13th 2015

MINISTRY OF ENERGY AND MINES, NICARAGUA



Gobierno de Reconciliación
y Unidad Nacional

El Pueblo, Presidente!



“If the homeland is small, one dreams it large.” Ruben Dario (1867 -1916)

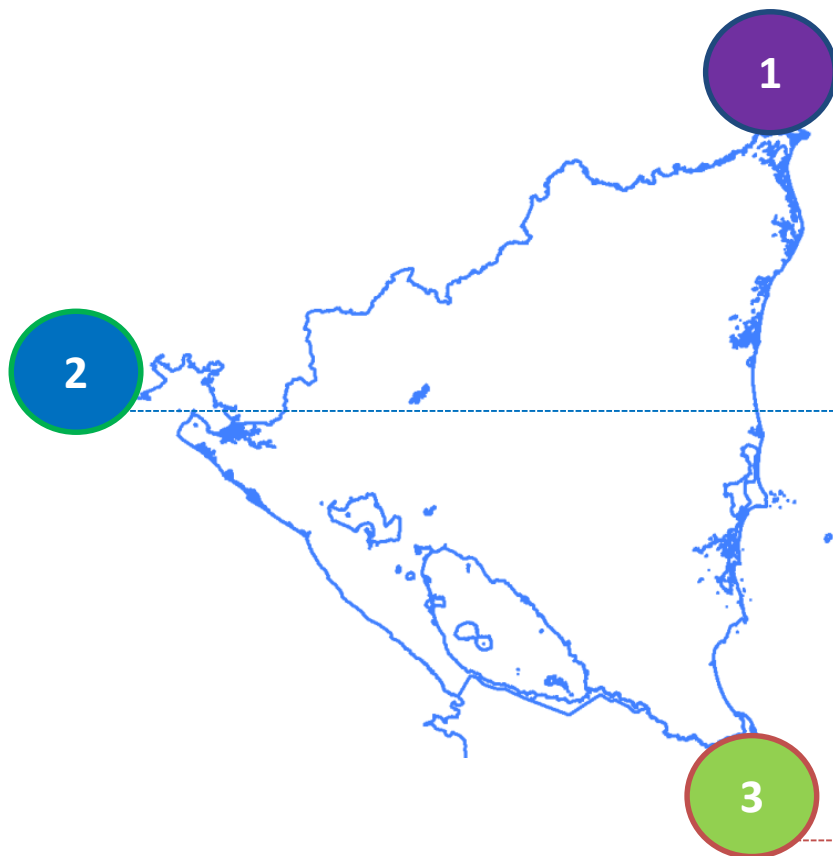


Nicaragua in Numbers



SREP SCALING UP RENEWABLE ENERGY IN LOW INCOME COUNTRIES PROGRAM

Nicaragua's Energy Strategy



UNIVERSAL ACCESS TO MODERN ENERGY SERVICES:

Universal access is essential to ensure a significant improvement in quality of life and new opportunities for business, education and entertainment. 20% of the population is still deprived from access to the grid.

TRANSFORMATION AND DIVERSIFICATION OF THE ENERGY MIX WITH RENEWABLES

Decreasing our dependence on imported fuels and harnessing the potential of renewable energy available in the country, such as geothermal, hydro, wind, solar and biomass, are key to our sustainable development, to stimulate our economy and strengthen the competitiveness of our country.

ENERGY EFFICIENCY

Nicaragua must improve the efficient use of energy to strengthen its competitiveness in relation to the world and to strengthen its energy security, in addition to reducing greenhouse gases emissions.

Relevant Strategy Frameworks



Objetivos de Desarrollo del Milenio 2015



Marco de referencia global:



Marco de referencia regional:
Estrategia energética sustentable 2020 para Centroamérica (CEPAL)



Marco de referencia nacional:
Plan Nacional de Desarrollo Humano 2016

Política Energética Nacional 2016

- Plan de Acción Sector Energía, MEM
- Plan de Acción SE4ALL
- Plan de Acción RRA
- Programa PNER 2012 – 2017



Regional Context (2014)

MEXICO

Demand 38,095 MW
Capacity 60,795 MW

Total in Central America

Demand: 7783 MW
Effective capacity: 12,414 MW

GUATEMALA

Demand: 1600 MW
Generation capacity: 2525 MW

HONDURAS

Demand: 1383 MW
Generation capacity: 1852 MW

NICARAGUA

Demand: 639 MW
Generation capacity: 1063 MW

PANAMÁ

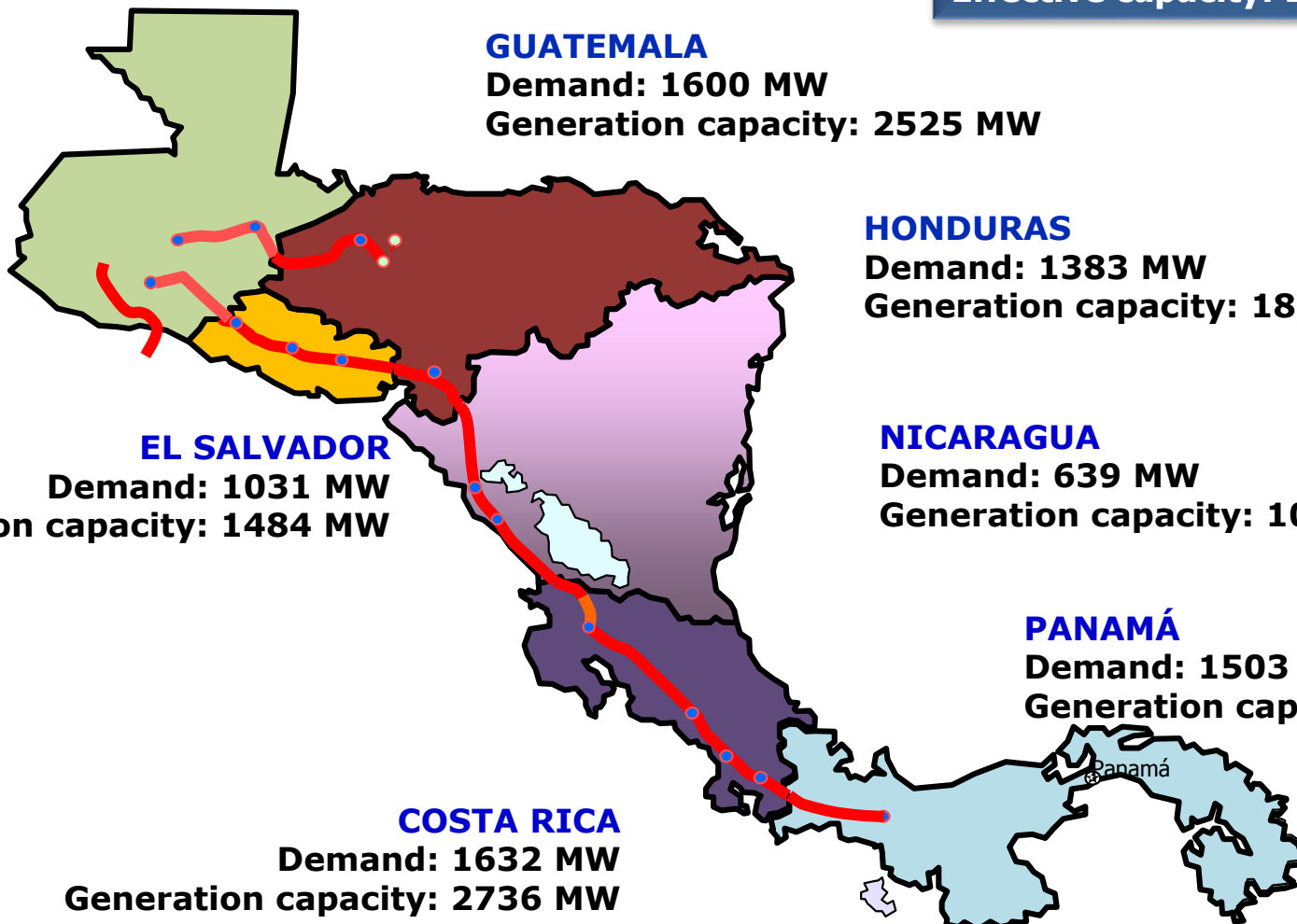
Demand: 1503 MW
Generation capacity: 2754 MW

EL SALVADOR

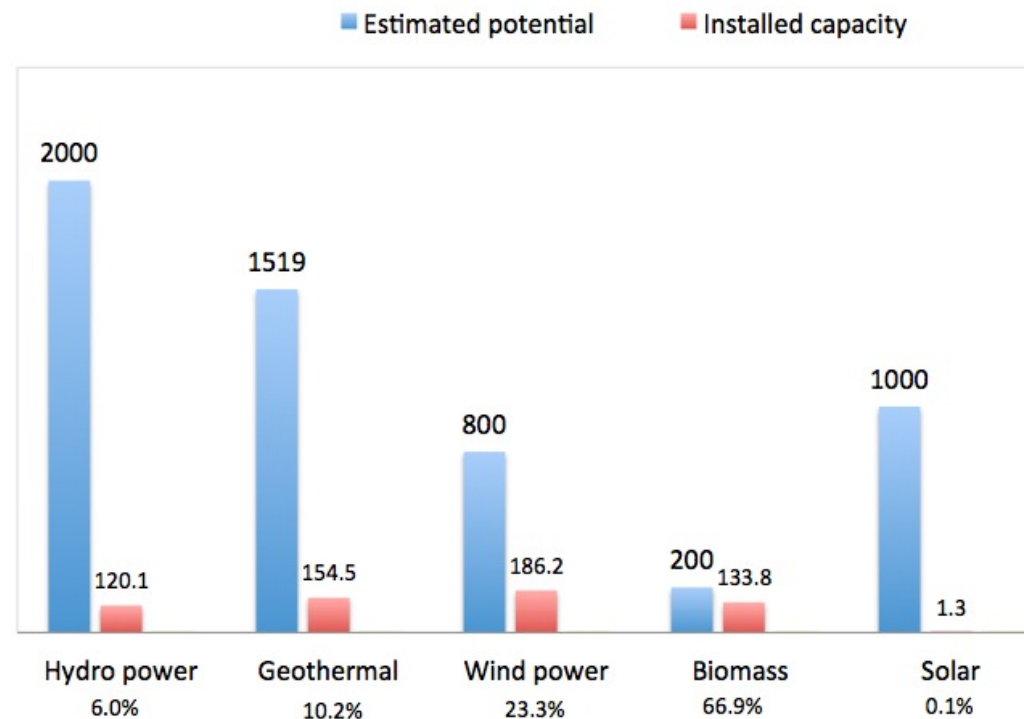
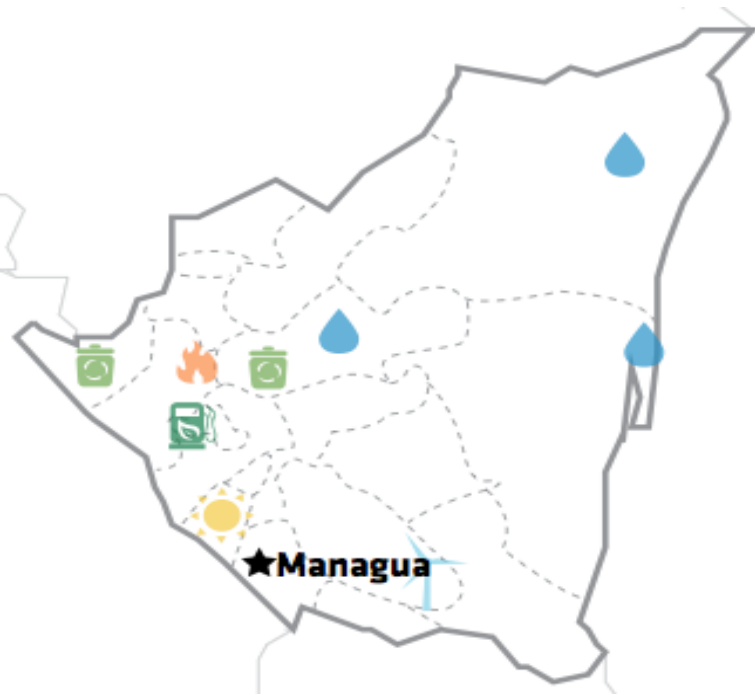
Demand: 1031 MW
Generation capacity: 1484 MW

COSTA RICA

Demand: 1632 MW
Generation capacity: 2736 MW



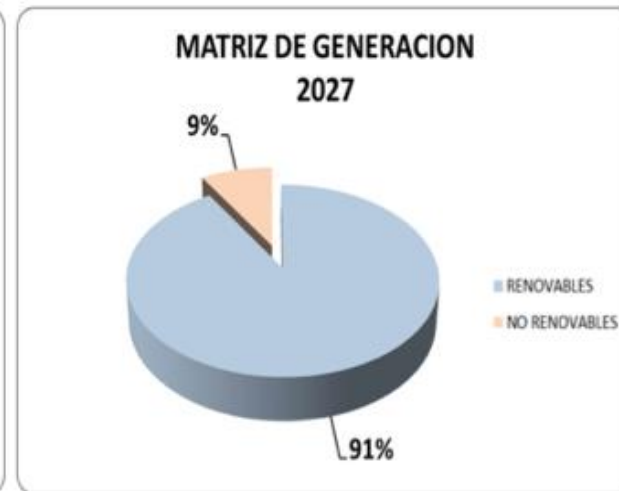
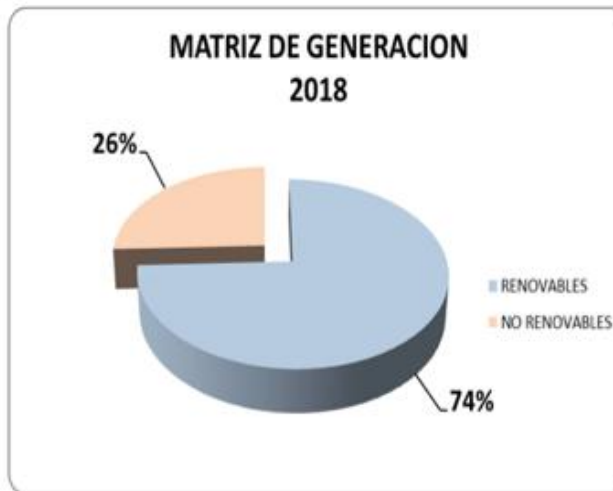
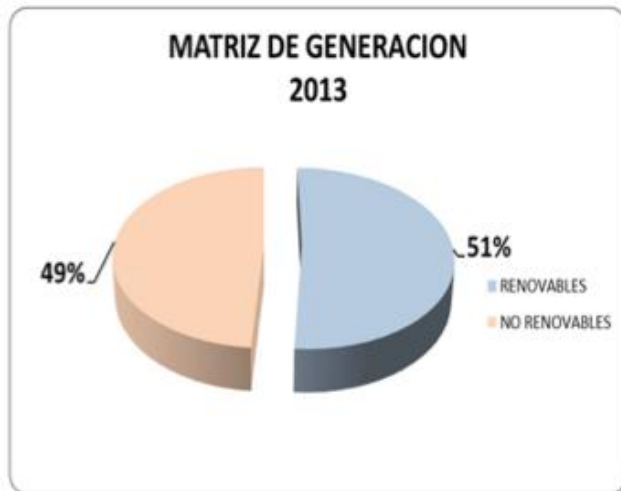
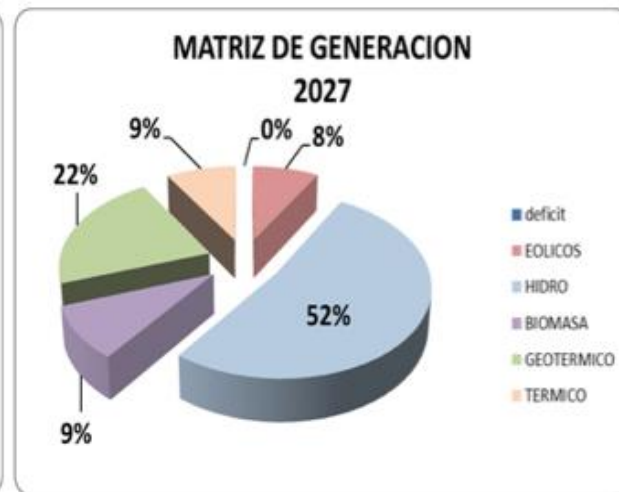
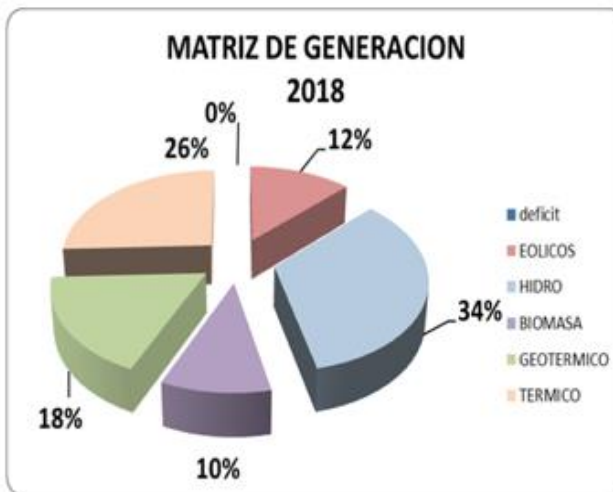
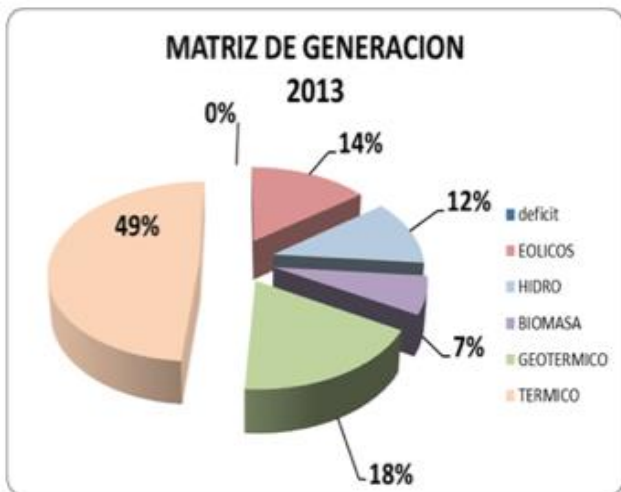
Nicaragua's Renewable Potential ($\approx 5,500$ MW)



Nicaragua's Geothermal Potential ($\approx 1,500$ MW)



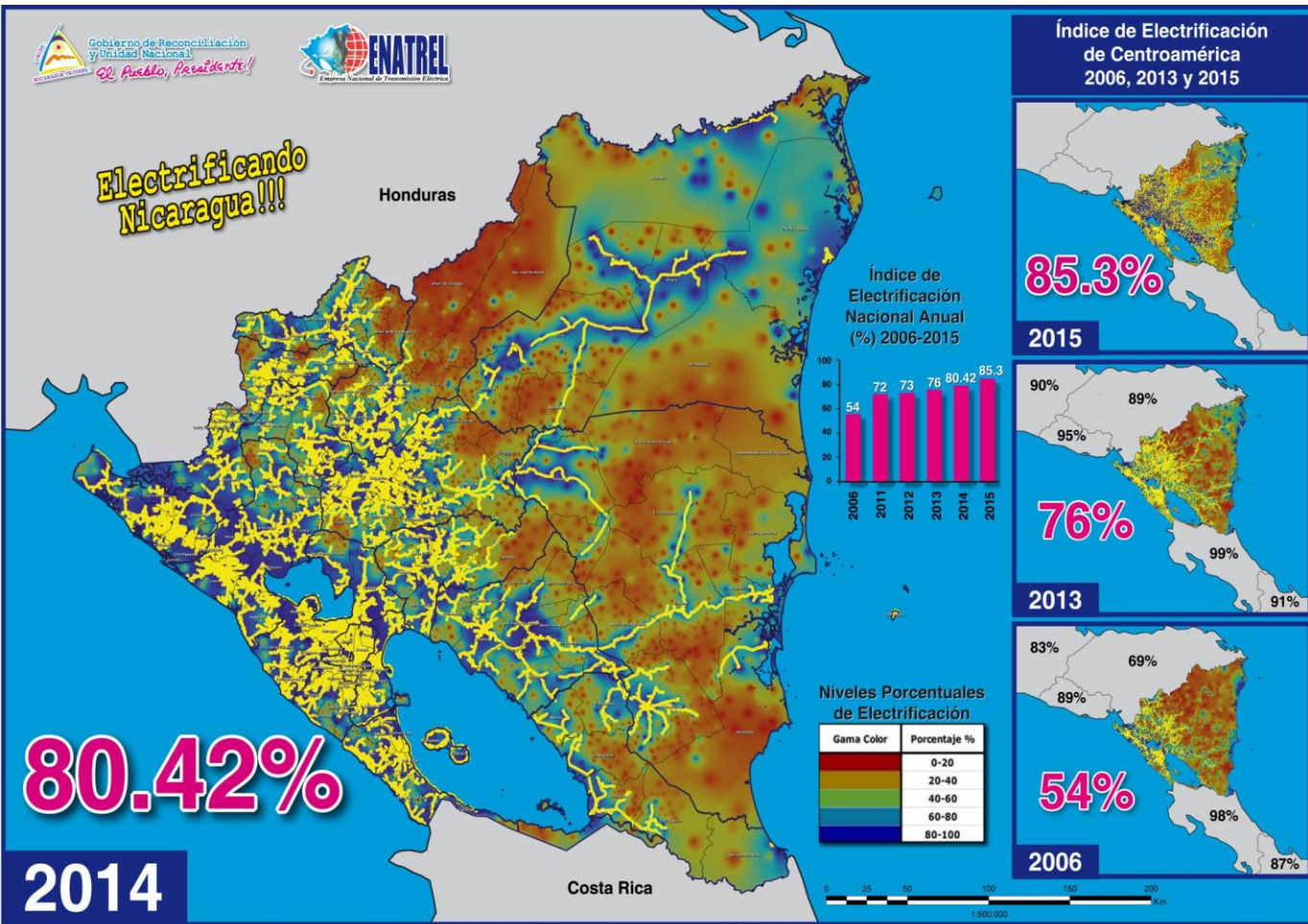
Electricity mix – Projections to 2027



Evolution of the generation matrix (%) indicative scenario - average demand

Source: (MEM, 2013)

Access to Electricity (2006 – 2015)



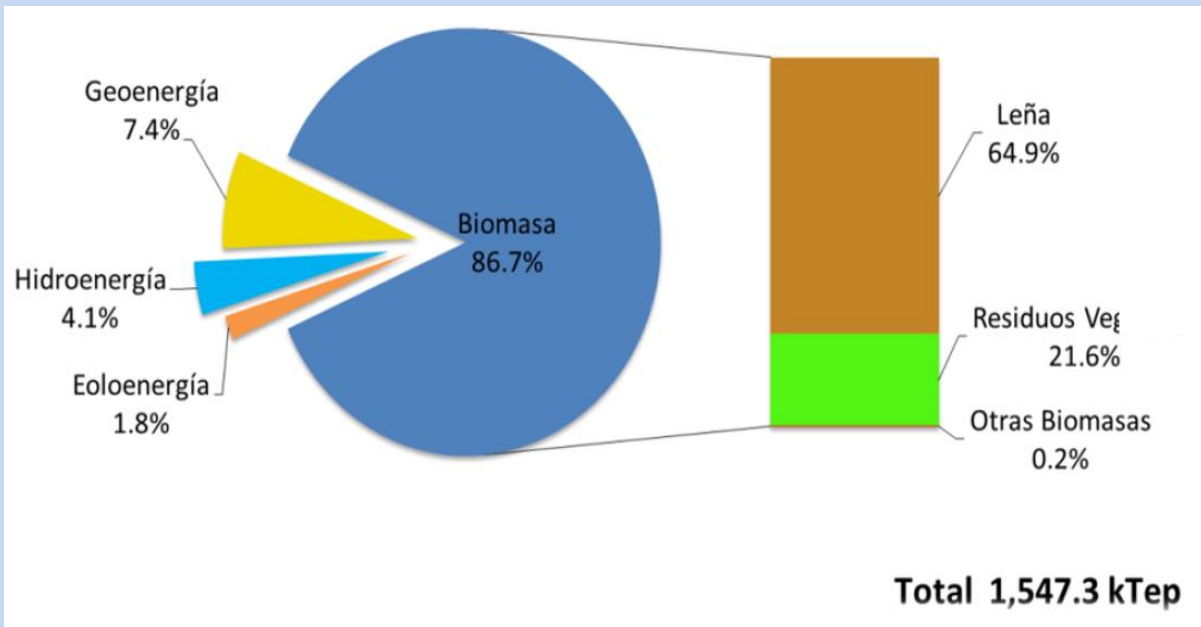
DEPARTAMENTO	(%) Cobertura 2014
RAAN	42%
RIO SAN JUAN	44%
JINOTEGA	50%
RAAS	50%
NUEVA SEGOVIA	64%
MADRIZ	64%
BOACO	64%
MATAGALPA	70%
CHONTALES	78%
CARAZO	88%
MASAYA	89%
RIVAS	89%
ESTELI	90%
CHINANDEGA	91%
GRANADA	92%
MANAGUA	92%
LEON	93%
COBERTURA NACIONAL 2014	80.42%



SREP SCALING UP RENEWABLE ENERGY IN LOW INCOME COUNTRIES PROGRAM

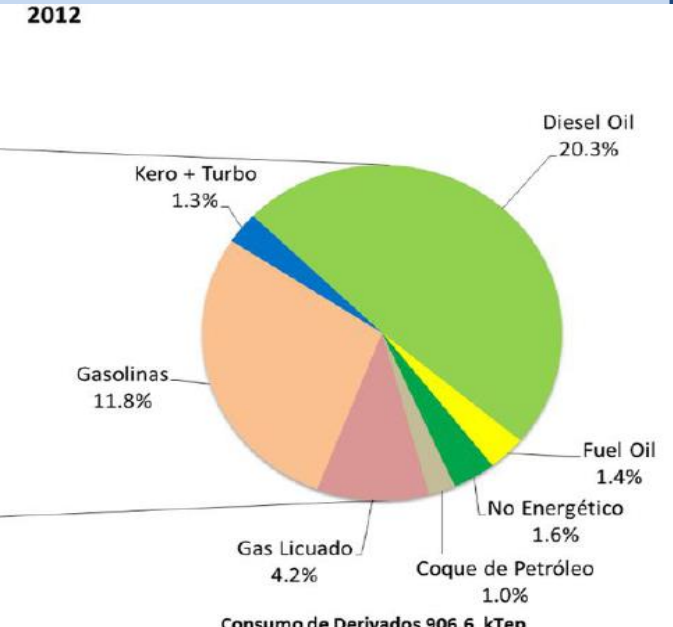
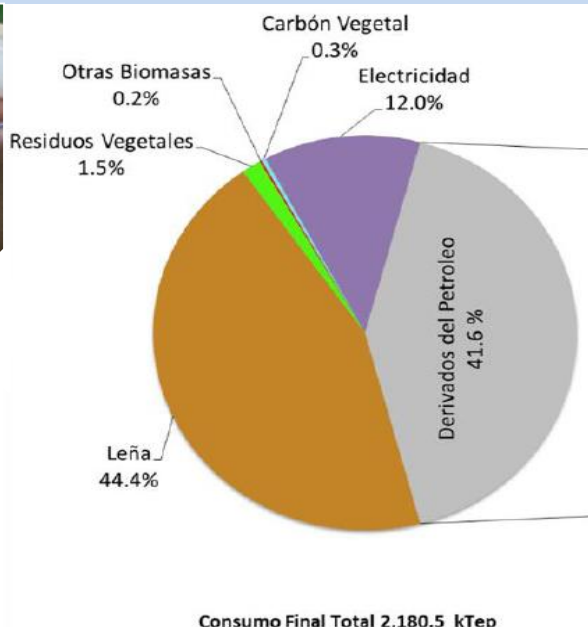
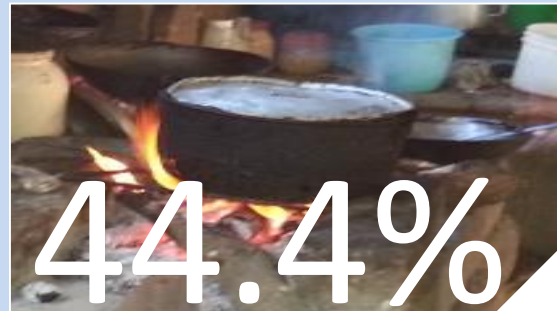
Consumption of Firewood

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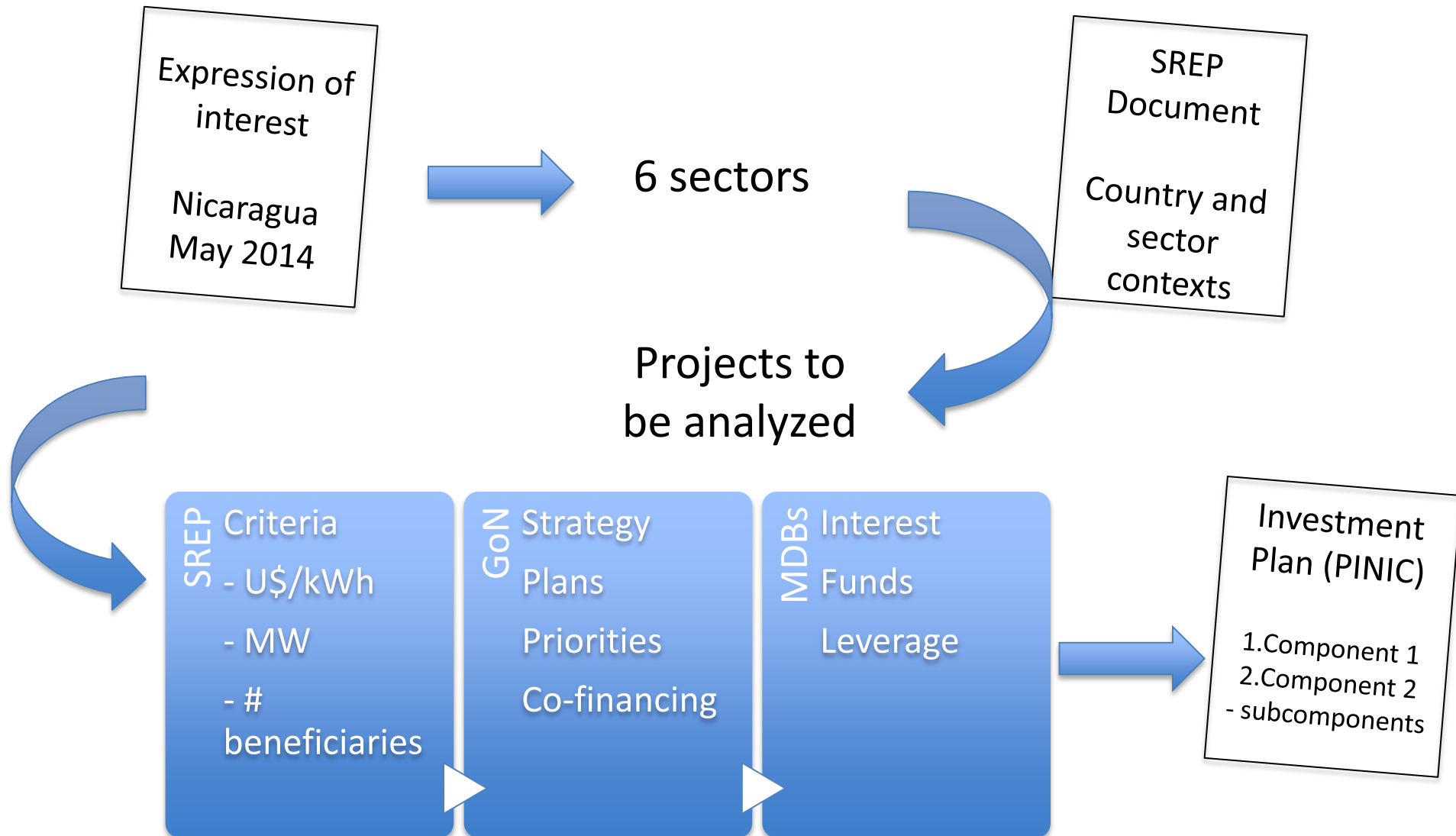


64.9%
(Firewood)

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Nicaragua Investment Plan: Elaboration Process



Integrated Planning Team SREP / SE4All / IRENA

SREP

SE4All

IRENA / RRA process

Base team: SREP / SE4All / RRA

National Expert Group

Validation group

MHCP
MEM
ENATREL
ENEL
BID
GBM
Private sector
Civil society and trade associations

Ministry of Energy and Mines (MEM) in coordination with the national transmission company (ENATREL) – **Country lead and focal point**

Banco Interamericano de Desarrollo (BID) – UNDP: **SE4All Coordination**

International Renewable Energy Agency (IRENA) – **RRA Coordination**

Consultants

Ministries

Private sector and utilities

Financial institutions

Consultant

Academia and R&D

Other Ministries

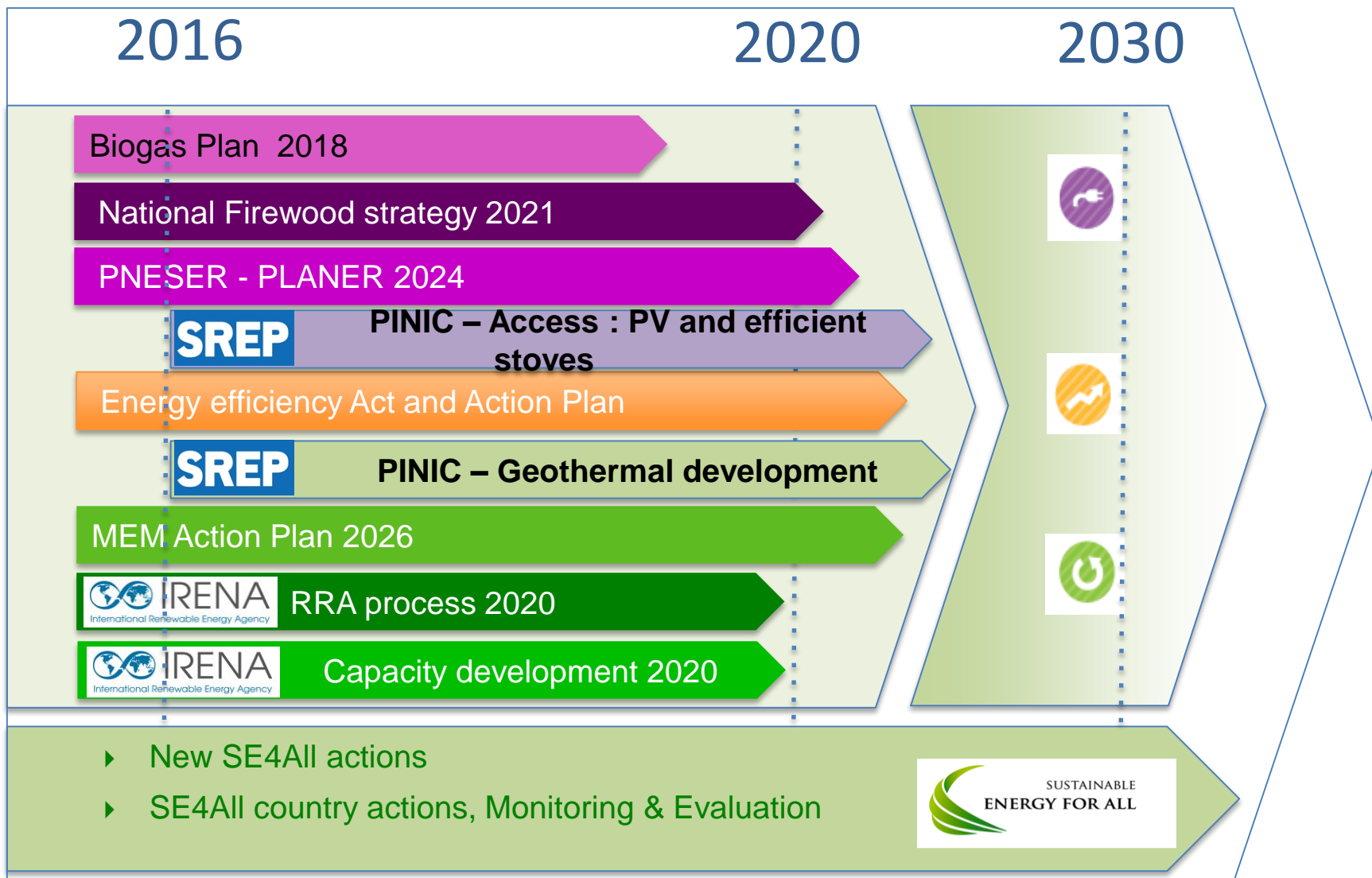
Bilateral and multilateral development agencies

Equipment and service providers

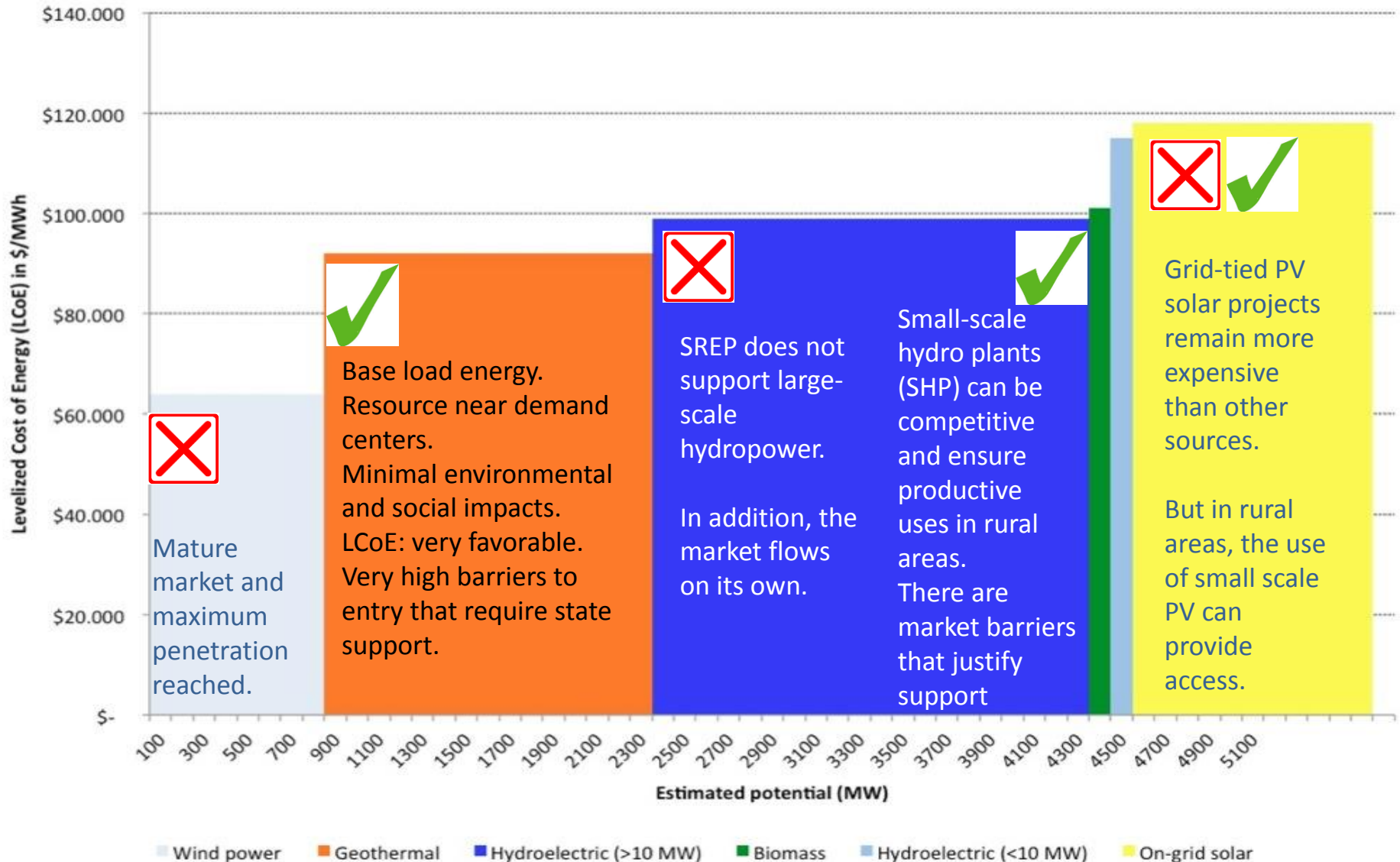
Business associations, etc..



PINIC Programmatic Coherence



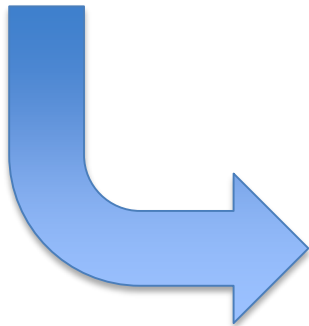
PINIC – Selection of Investment Priorities



Selecting and Prioritizing Projects

SREP Criteria

- (1) Scalability potential (to expand the projects)
- (2) Potential beneficiaries
- (3) Elimination of market barriers
- (4) Promotion of a low-emission development model
- (5) Strategic relevance and social inclusion
- (6) Contribution to leveraging new investment
- (7) Synergy with existing programs and minimizing duplication
- (8) Financial sustainability (viability)



Proposed components	Ranking	Timeline
#1 – Geothermal energy	24	Long term
#2 – Integral development of rural areas		
Rural Electrification with PV	22	Short term
Access to improved cookstoves	19	Short term
Renewable Energy for productive uses	18	Medium term

PINIC - Component #1 / Geothermal Energy

Geothermal area	Estimated potential (MW)	Study progress and current situation	Concession status	Preparation and interest
Exploration / Drilling phase				
Casitas-San Cristobál	225	Surface studies. 1 slim-hole. Resource identified	Cerro Colorado Power (with WBG)	High
Volcán Cosigüina	106	Surface studies by GoN	None	Low
Volcán Mombacho	111	Surface studies. 1 slim-hole. Resource not identified	Under review. With JICA support	Low
Caldera de Apoyo	153	Being identified	Under review. With JICA support	Low



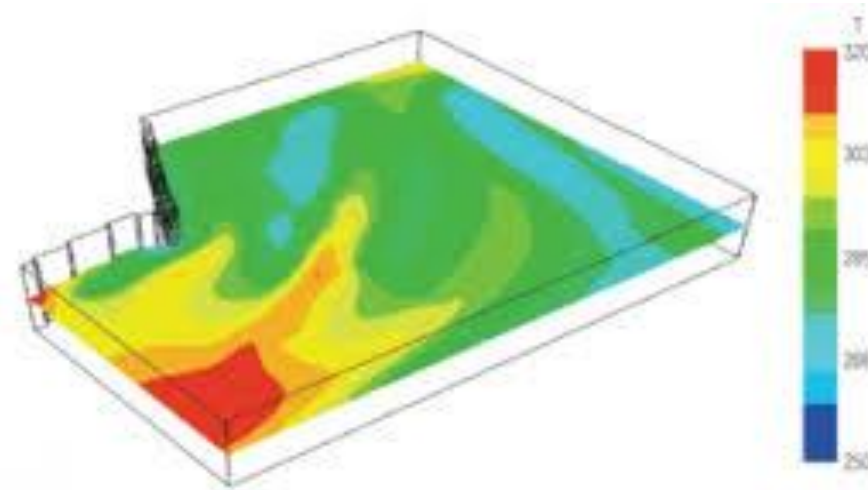
PINIC - Component #1 / Sub-components

Confirm the geothermal resource in two promising sites for which ample information is already available



SREP = US\$ 17.75 millions

Gather further information about the geothermal potential of three less studied sites



SREP = US\$ 4.75 millions

PINIC - Component #2 / Access



PINIC - Component #2 / Sub-components

Financing of PV systems for rural electrification:

- Waspam / Río Coco
- Cabo Gracias a Dios



SREP = US\$ 2.8 millions

Facilitating the adoption and transfer of improved stoves for residential use



SREP = US\$ 1.2 millions

PINIC - Component #2 / Sub-components

Promotion of renewable energy for productive uses:

- SHPs
- Efficient kilns, biogas
- PV, solar thermal, solar pumping



SREP = US\$ 3.5 millions

Improvement of the electric transmission infrastructure :

- 102 km of HV lines
- 4 substations



SREP = US\$ 0 millions

PINIC Financial Resource Structure

Components / Sub-components	PINIC – Financing (millions of USD)										
	PHASE 1										
	SREP-IDB		SREP-World Bank		GoN	IDB	WB/IDA	JICA	Private Sector	GCF	TOTAL PHASE 1
	Grant	Loans	Grant	Loans							
0) Project development	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.30
1) Component #1: Goethermal energy	0.75	6.75	8.25	6.75	0.00	20.00	30.00	20.00	70.00	15.00	177.50
2) Component #2: Rural energy and transmission	7.50	0.00	0.00	0.00	25.20	45.00	0.00	40.00	0.00	30.00	147.70
TOTAL	8.25	6.75	8.25	6.75	25.20	65.30	30.00	60.00	70.00	45.00	325.50

Estimated PINIC Roadmap

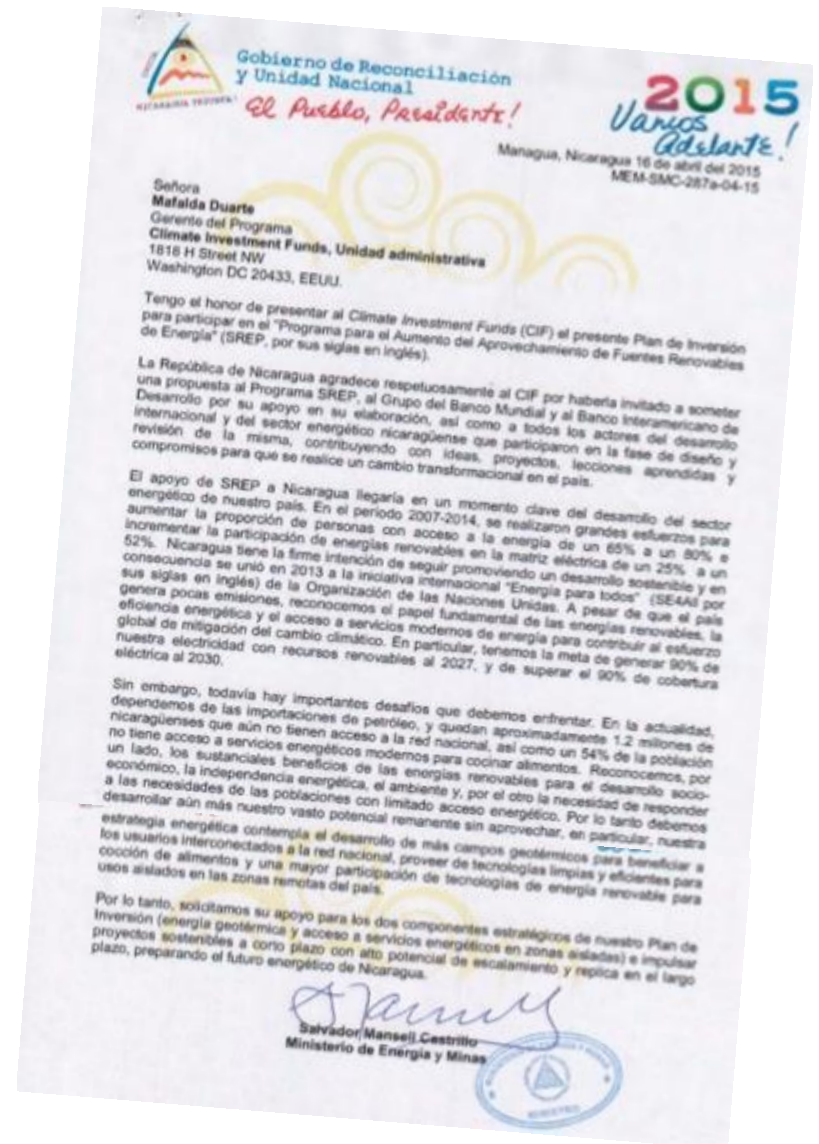
PINIC / Component #1 and Component #2	Projected timeline
PINIC presentation to CIF - SREP S/C	13 May 2015
Detailed design of projects (GoN/MDBs)	October 2015
S/C approval (SREP) of projects (CIF)	November 2015
S/C approval (SREP) of projects (MDBs)	January 2016
IDB internal approval of leveraged funds (MDBs)	August 2016

Acknowledgments

The Republic of Nicaragua respectfully expresses thanks to:

- CIF for having invited our country to submit our IP
- The WBG and the IDB for their support in the process
- all civil society and development actors who participated.

SREP's support to Nicaragua would come at a key moment of the development of our energy sector.





Gobierno de Reconciliación y Unidad Nacional

El Pueblo, Presidente!

